Advanced Beamlines for Biological Investigations with X-rays (ABBIX) Project Quarterly Report – 1Q FY12

DATE: submitted on 6 January 2012

1. Project Schedule

Conceptual Design Review	Planned: 1Q FY12	Actual:
Preliminary Design Review, Baseline	Planned: 4Q FY12	Actual:
Final Design Review, Approve Construction	Planned: 2Q FY13	Actual:
Complete Integrated Testing Without Beam	Planned: 4Q FY15	Actual:
Complete Project Closeout	Planned: 3Q FY16	Actual:

Short term (3-month) schedule

- CDR document, associated cost range, schedule, and other required project documents
  - Final draft — Planned: Aug. 31 — Actual: Aug. 31
  - Distribution to Internal Review committee — Planned: Nov. 4 — Actual: Nov. 30
- LIX/AMX/FMX Advisory Committee meeting — Planned: Oct. 20-21 — Actual: Oct. 20-21
- Internal Conceptual Design Review — Planned: Nov. 9 — Actual: Dec. 5
- External Conceptual Design Review — Planned: Nov. 29-30 — Actual: Jan. 17-18, 2012

2. Technical Objectives: 3 beamlines installed and ready for commissioning with X-ray beam

Planned NIH beamlines

AMX – Flexible Access and Highly Automated Beamline for Macromolecular Crystallography
FMX – Frontier Macromolecular Crystallography at an Undulator Beamline
LIX – High-brightness Beamline for X-ray Scattering for Life Sciences

Assumed Funding Profile

Funding ($M) by Fiscal Year	FY10	FY11	FY12	FY13	FY14	FY15	Total ($M)
NIH ARRA funding for IDs/FEs ($M)	$12.0						$12.0
NIH funding for beamlines ($M)		$23.4	$5.5	$4.1			$33.0
NSLS-II funding for Common Beamline Systems ($M)		$0.1	$1.0	$1.4	$0.5		$ 3.0
Total Project Cost ($M)	**$12.0**	**$23.5**	**$6.5**	**$5.5**	**$0.5**		**$48.0**

3. Progress:

- Beamline sections of the Conceptual Design Report and other project documents were posted for internal review, November 30.
- Internal red team Conceptual Design Review held December 5.
- All documents completed for Conceptual Design Review, end of December.
- Interviews for permanent beamline leader (WBS Level 2 manager) positions held, December.
- Insertion devices:
  - Planned acquisition strategy for two 1.5m-long IVU21 undulators, for AMX and FMX, via exercising the option for two additional units in the SRX (NSLS-II project beamline) undulator procurement, is planned following expected approval by the ABBIX Conceptual Design Review committee at the Jan. 17-18, 2012 review.
  - Planned acquisition strategy for the LIX undulator: either (a) 3m-long IVU23 undulator LIX via joint procurement with the ISR (NEXT project beamline), to begin in FY12, or (b)

a 1.5m-long IVU21 undulator, via addition of another unit to the SRX undulator procurement. Recommendation regarding choice of (a) or (b) to be provided by the ABBIX Conceptual Design Review committee at the Jan. 17-18, 2012 review.

4. Issues and Risks:

- In order to support preliminary design efforts, a significant ramp up of qualified manpower for the ABBIX project is needed in FY12.
- Until permanent project scientific staff are hired, some of the effort for conceptual design and preparation of cost and schedule estimates will come from existing resources in the Photon Sciences Directorate. This might incur some negative impact on performance of NSLS operations in FY12.

5. Action Items and Decisions:

- ALD's Conceptual Design Review of ABBIX to be held at BNL Jan. 17-18, 2012.
- Decisions on exercising SRX undulator procurement options for ABBIX to be made by March 2012.
- Interviews for the permanent beamline leader (WBS Level 2 manager) positions, one for AMX/FMX and one for LIX, to be completed by the end of January 2012, with a goal of filling these positions by 2QFY12.
- Two engineering positions have been opened, one for FMX/AMX and one for LIX.